Analyzing State Charter School Laws and Their Influence on the Formation of Charter Schools in the United States

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Abstract

This paper analyzes charter school state laws in terms of two general dimensions: 1) the flexibility, freedom, and support extended in the law; and 2) the degree of public accountability required of charter schools. The paper proposes a much more complex set of analyzes of those laws than have been accomplished to date. After analyzing the empirical properties of the subscales, we briefly compare them to the widely used Center for Education Reform scale. We then estimate what state characteristics appear to best predict both flexibility and accountability. Finally, we study the relationship between variance in laws, other independent variables and the number of charter schools established in a state. We find somewhat surprisingly that flexibility in laws along our multiple dimensions is also highly correlated with high levels of required public accountability. We are very unsuccessful in finding any linear relationships that appear to explain which states enact flexible laws and which do not. We do, however, find a number of interesting relationships between the number of charters existing in states and the nature of their laws, as well as other demographic and political factors.

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Introduction

This paper analyzes charter school state laws in terms of two general dimensions: 1) the flexibility, freedom, and support extended in the law; and 2) the degree of public accountability required of charter schools. The first of these has received considerable attention in prior research (Wohlsetter, Wenning, and Briggs, 1995; Mintom and Vergari, 1998; Hill, Lake and Celio, 2002; Wohlsetter, 2002; Center for Education Reform, annual reports). The paper proposes a much more complex set of analyses of those laws than have been accomplished to date. It also updates the evolving set of state laws, incorporating amendments that have been made in early charter school laws. Although the second task has often been discussed and put forward as critical to charter schools, it has not been the subject of as much quantitative empirical analysis.[1]

Most of the recent research on charter school formation has employed the scale and coding of state laws updated each year by the Center for Education Research (CER), a very strong pro-charter school organization. That scale was designed to evaluate laws as to their "strength," which roughly translated into their flexibility in terms of ease of establishing and operating charter schools. Thus a "strong law" would be one with minimal barriers to entry, no restrictions on the number of charters, waivers from rules, aid and autonomy in finance, etc. Although we feel this scale has been useful to earlier research, we also believe it provides a limited description and judgment of the values underlying these laws. In short, we argue that these laws are multidimensional; something that the CER scale fails to capture. Further, we know of no research attempting to model the *effect* of charter laws on the growth of charters, nor on which elements of charter laws are most likely to encourage charter schools to open.

Our original theory and coding scheme proposed seven dimensions or sub-scales: applications and authorization; fiscal support; governance; employees; students; performance accountability; and public accountability. The first two of these dimensions would define ease of entry, the last five operating conditions. While many of these dimensions followed CER's focus on flexibility versus barriers, others did not. For example, our theoretical rationale for public accountability was to measure a state's effort to use charter schools to fulfill the broad public functions of education—which includes accountability for results in terms of performance, public accounting of costs, and maintaining legal rights of students and parents. Thus this measure could be quite inimical to the flexibility dimensions of the scales.

After analyzing the empirical properties of the subscales, we briefly compare them to the CER scale. We will then estimate what state characteristics appear to best predict the number of schools established in a given state. Finally, we will study the relationship between state characteristics and flexibility and accountability.

[1] The most comprehensive and thoughtful study of charter school accountability is the recently published work by Hill, Lake, and Celio (2002). That study is based on 17 case studies of accountability in charter schools in 6 states, other evidence from 150 charter schools, and use of a national survey of charter schools conducted by RPP International in 1998 (Berman, 1999).

The overall aim of the paper is not only to better understand the contour of charter school laws, but also ultimately to help policymakers as they attempt to improve charter school laws already on the books and others that are presently being developed in statehouses across the country.

Background

The idea of charter schools goes back at least to the late 1980s, with Ted Kolderie being one of the first proponents of the idea in Minnesota (Kolderie, 1990). Minnesota enacted the first charter school law in 1991 (Nathan, 2002).[2] Since then, 39 other states have enacted laws, and as of September, 2002, some 2,695 charter schools were in operation.

(Figure 1 Goes About Here.)

Although charter school laws vary considerably from state-to-state, the general idea of charter schools is that in exchange for considerable flexibility in operation and design of curriculum, pedagogy, and other aspects of running a school, the school will agree formally to certain standards of accountability through a written contract with an authorizing authority. Unlike voucher programs, but similar to magnet schools, charter schools are public schools, supported by public monies. Depending on the state, private schools may hold charters; and most states allow public schools to convert to charter status. At present, religious private schools may not become charter schools (although some states allow conversion to charter status if they drop religious instruction).[3]

In nearly every state, charter school laws have evolved since their initial adoption. In general, these amendments have expanded the number of permissible charters, eased entry of schools in becoming charter schools, increased the flexibility of charter schools, and increased fiscal support. Wisconsin's charter school program exemplifies this evolution. The initial 1993 legislation allowed 10 school districts to establish two charter schools each. Three charter schools were created under this original law. Revisions to the law occurred in 1995, 1997, 1999, and 2001. Each revision of the charter school law increased the opportunities for granting charters. Under the 1995 law, all school districts were allowed to grant charters with no restrictions on the number of charters. In 1997 the law, as it applied to Milwaukee, expanded authority to grant charters to the city of Milwaukee and several colleges in addition to the Milwaukee Public Schools (MPS). Also in 1997, a new form of charter school was authorized which did not permit charter school staff to be employees of the school district (and thus not in the union). Charter school supporters, who felt that MPS and the teachers' unions were impeding creation of charter schools, introduced these changes. There was some evidence for that because as of 1997 MPS had only chartered one school.[4]

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[2] Joe Nathan provides a detailed description of the "founding" of charter schools, attributing, according to Albert Shanker, the first use of the word to a New England educator named Ray Budde who wanted schools to be given "charters" parallel to what kings had done for European explorers. Nathan goes on to describe the growth of the idea and initial legislation in Minnesota between 1988 and 1990 (Nathan 2002, pp. 17-22).

[3] There is some degree of disagreement in our research group about the possibility of religious charter schools in light of the 2002 U.S. Supreme Court's *Zelmer* decision upholding vouchers for private schools in Cleveland. Some believe that the public purpose provisions governing public schools in state constitutions will prevent this from happening. Others are not as certain. If states were to allow private, religious schools to become charter schools obviously the landscape of charter schools would change dramatically.

[4] Interestingly, the first charter school in MPS was Fritsche Middle School, whose then principal, William Andrekopoulos, is now the superintendent of the district.

Even with this evolution, state laws remain significantly different in the amount of flexibility they provide. For example, in Arizona, one of the most "liberal" (and most studied) charter states, interested charter applicants may apply to two charter authorizers for a 15-year charter anywhere in the state, or to the local school board in a district for a similar 15-year charter. The Commonwealth of Virginia, on the other hand, provides that only a local school board may authorize a charter school, with an "adequate" amount of local popular support. Further, unlike most states, employees of the school are employees of the district, and the district may assign a teacher to a charter school. Other states provide little direction at all. Kansas state law does not provide for funding charter schools. (For a current analysis of legal issues in charter laws, see Green, Mead, and Greaves, forthcoming).

For this paper, we do not empirically analyze this evolution of charter school legislation across states. Rather we rely on the text of laws as of February, 2003. Later papers will attempt to quantify the amendment process and their particular effects on the growth of charter school across the nation.

Measuring Variation in State Laws

To develop scales to measure and code state laws, we began with a review of the literature on charter schools across the states. In some cases we relied on studies describing, categorizing or coding state laws (Wohlsetter, Wenning, and Briggs, 1995; Mintrom and Vergari, 1997; CER, 2001, 2002). In others we relied on recent books either describing charter schools in a number of states (Vergari, 2002; Miron and Nelson, 2002; Wells, 2002), or dealing with important concepts embedded in charter school laws (Hill, Lake, and Celio, 2002). From that review and a preliminary review of a set of state laws, we theorized a set of five dimensions of support for and flexibility in operating charter schools, and two forms of accountability (performance and public accountability). We created each subscale item assuming that local control of a charter school's environment was the least flexible arrangement and that state control was the most. The dimensions, the original number of items developed for each subscale, and final subscale definitions and statistics are presented in Table 1.

(Table 1 Goes About Here.)

After the original set of variables was created, three coders began to code the laws using a 1 to 5 coding scheme. Some examples of the coding scales are provided in Appendix A. As the coding was completed, it became apparent that a number of the variables had either a very large number of missing observations because laws did not address an issue[5] or had virtually no variance from state to state.[6] We also conceptually decided that some variables we had associated with "authorization and application" and the

[5] For example, in the original fiscal support scale, we tried to code limits on "virtual" charter schools—where teachers deliver instruction electronically (and more cheaply than in bricks-and-mortar)—because their use has caused considerable turmoil in California, Pennsylvania, and Wisconsin. Yet only seven states address the issue at all (not including Wisconsin, incidentally). Similarly in the employee scale, few state statutes directly addressed the issue of whether school administrators had to be certified, even when teacher certification was explicitly mentioned.

[6] For example almost all states allowed charter school teachers to participate in teacher retirement plans and, interestingly, almost all states require charter schools to take state mandated tests. We return to the latter below when we discuss the extreme diversity of opinion on how accountable charter schools are.

remaining items from "governance" were better categorized as "local oversight." We also discovered that in most laws, accountability provisions did not distinguish between our original notions of public accountability and performance accountability. The former we had associated more with rights of parents, students and the public, but it also became clear that performance reporting, for example, was also a major tool of public accountability. Thus we combined the dimensions. The inner-coder reliability across all items in the final scales was 89 percent.

We present the scale means, standard deviations, and scale reliabilites as measured by Cronbach's alpha in Table 1. The subscale items were first added, then averaged so that they range from 1 to 5, with 5 being the most flexible on the first four scales, and the most accountable to the public on the last. The final scale is a comprehensive scale that includes all 20 items in the subscales. The reliabilities are not as high as some readers may be use to seeing. However, most scaling of this type is done on survey items. Because individuals may be sensitive to responding consistently (item response bias), the alphas for attitude scales may be artificially high. In any event, it is unlikely that large numbers of legislators drafting controversial laws will manifest the same consistency as one person answering a survey. The reliabilities are respectable, however, as is the overall scale composed of the addition and then averaging of all individual items in the subscales.

The relationships between subscales are interesting. Although each subscale seems to scale quite well with its own items, there is very little relationship between the subscales. Of the 10 inter-scale correlations for the five subscales, half are negative, but usually close to zero. Of the five most positive, the largest correlation is 0.29. Even more interesting, four of the positive correlations are with the public accountability scale.

We see two important implications of these results. First, as might be expected, the subscales are clearly not measuring the same thing across states. Thus it will be important to look carefully at the effects of the different dimensions on, for example, growth in charter schools. We will compare these results with those of the overall scale of 20 items (last row, Table 1).

Second, the three items in the accountability scale, which in one sense is coded as a "weak" set of constraints because high scale scores mean statutes require tough renewal procedures, performance reports, and fulfillment of state standards, are, in general, positively related to the other scales that measure flexibility and autonomy for charter schools. One could easily hypothesize the opposite: that states trying to encourage charter schools through extreme autonomy would also "let them off easy" on accountability requirements.[7] That appears not to be the case, as legislators seem to have built into the law a real tradeoff in terms of accountability and autonomy.[8]

This finding adds to the growing confusion concerning charter school accountability in practice. In a recent book, Amy Stuart Wells (2002) argues that charter schools are considerably less accountable than other public schools. She and her co-

[7] For example, the influential study of accountability by Hill, Lake and Celio theorized that school accountability would first link autonomy with *internal* school accountability, which would then be linked to external accountability (which is what is measured by the statutory provisions we coded). The problem could be that if statutes did not require the last link, then charters would only be based on internal accountability. Our results suggest that those states that provide the greatest autonomy also require the greatest external accountability. See Hill, Lake, Celio, 2002, pp. 5-11.

[8] In addition, one important variable, the requirement that charters take state-mandated tests, was dropped from the scale because every state included some provision for them in its charter law.

authors cite a number of studies supporting their findings for California. Although we do not necessarily subscribe to how she characterizes their findings, there certainly is a question about the external accountability of charter schools in practice. What we find is that the most flexible laws tend to be those with the most provision for accountability. If "accountability" is indeed a problem in charter schools, it is through no fault of the laws themselves.

The Relationship Between Our Scales and the Center for Education Reform Charter School Scale

Because the Center for Education Reform charter school legislation index and state ranking is often cited and updated annually, we analyzed how their 10-item scale relates to our varying dimensions. We did this by using CER's scale scores for states in 2003 as dependent variables in two ordinary least squares regressions, first on our overall 20-item scale, and second on our five subscale scores. The results of the first regression indicate a partial match with a highly significant coefficient and an adjusted R-squared of 0.45. That means a bivariate correlation of 0.67. The relationship is improved when we regress our five separate subscales on the CER score. Table 2 contains the results and Figure 2 shows the state-by-state relationship between the actual CER score and the estimated state CER score using our regression.

It is clear that all of our dimensions are related to the CER scale, with the most robust relationships for authorization and accountability. The adjusted R-square of 0.68 translates into a bivariate correlation of 0.82. While our scales tap quite different aspects of charter school legislation, the similarity with CER's suggests that our coding is reasonable. We now explore if those dimensions are related to the number of schools in a state, and whether we can predict flexibility and accountability from state characteristics.

(Table 2 and Figure 2 Go About Here.)

Legal Effects on Charter School Numbers

We begin by looking at the effect of charter laws. There is clear evidence that the contents of the state's law can predict the number of charter schools in the state. A later paper will analyze growth as well. For present purposes, we estimate the number of charter schools open in the 2002–03 school year.[9] For the explanatory variables, we use the most recently available numbers for the data in this analysis.[10] (Descriptive statistics are in Table 3a.)

(Tables 3a and 3b go about here.)

Why should we attempt to predict the number of charter schools instead of, say, students? Laying aside the shaky nature of charter-school-level student enrollment data, we see two strong reasons to count schools rather than the students within them. First,

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[9] We draw our data for the number of charter schools from the Center for Education Reform (various), except for Wisconsin, which we have from the state Department of Instruction. *Caveat emptor*: the numbers of charter schools in any given year is fluid, with the "number" varying between U.S. Department of Education numbers, state education agency numbers, and CER's numbers. Nevertheless, the numbers are usually near each other.

[10] Governor's party and percent of state legislators Republican are from the *World Almanac and Book of Facts* (2002). All school district and school system characteristics are from the National Center for Education Statistics for 2002–03.

charter schools are usually at liberty to expand their enrollment capacity over time. If charter schools provide a form of school choice, the simple possibility of choosing a school should provide competitive pressure in a district. Anecdotally, many Wisconsin charter schools claim to be oversubscribed, meaning that *if* there were to be more schools, or schools with more capacity, more students would migrate toward these school choices. Of course, if a school remains small over a long period of time, the effect of such a school might be dulled, but we do not have data to test this here. Second, we are testing hypotheses about the choices of school authorizers and school founders, not of parents. School enrollment may provide a reality check for founders—especially if enrollments (read, demand) are lower than they expect—but the effect of laws on the propensity to open a school does not require a single student to enroll.

Our first five explanatory variables are the five subscales developed above (not shown in Table 3a).[11] We use the subscales instead of a single measure because we believe that the different parts of the law vary in their importance to charter growth. This sub-scale variation is more important than it may appear at first. Some states have charter legislation on the books but no (or few) charter schools. In some cases, this appears to be by design (e.g. Mississippi which allows only one public school to convert to a charter school in each *Congressional* district). In others, states seem to have amended laws to encourage schools after no one or few had taken advantage of the existing law. A frequent amendment has been to ease or remove a legal cap on the number of schools in a state. Unfortunately, no state has (or had) filled its legal cap, and the states that modified their laws only to modify such a cap probably did little to encourage school growth. Beyond these legal measures, one can image two competing hypotheses predicting charter school growth. The first argues that *as a state is more politically conservative—from the governor to teachers' unions—there will be more charter schools.* If charter schools are seen as a vehicle of school choice, their ideological rationale should mesh more easily with conservative politics and the number of schools should be greater. The ability of citizens to choose among government services has long been associated with conservative theorists (Friedman, 1962; Niskanen, 1971), but we draw this particular hypothesis from experience with school vouchers, the cousin of charter schools (Witte, 2000). In every state where state legislators have seriously considered vouchers, the governor has been a Republican. Although party labels are admittedly an imprecise measure of ideology, they do represent substantively different programs, even in state-level campaigns (Ansolabehere, Snyder, and Stewart, 2001; Brown, 1995). We measure partisanship simply by the party of the governor currently in office and by the mean of the percentages of Republican seats in the upper and lower houses of the state legislature (see Scholz and Wei, 1986).[12] We also

[11] To aid comparison between subscale effects, we standardized each subscale so that its mean was zero and its variance was equal to one. This allows the observed variation in state laws to inform our estimates because some of our subscales did not yield the full range of (theoretical) possibilities. Standardizing the scales centers them with respect to the actual distribution of laws.

[12] For this part of the analysis, we originally used the "Government Ideology" measure by Berry, et al. (1998) and updated through 1999. As one might expect given that scale's construction, their measure is relatively highly correlated with the governor's and legislature's partisanship. Despite the greater breadth of their measure, given the high correlation ($p = 0.61$), we decided to use the more substantively interpretable measures noted in the text. Further, the disappearance of the "Southern Democrat" in the last decade weakens the need to control for one of the largest variations in meaning of the party label. Notice that we do use their "citizen ideology" score, however.

include "citizen ideology" as calculated by Berry, et al. (1998). Their measure incorporates the ideology of losing Congressional candidates as well as that of winning candidates in each Congressional district.[13] While these indicators are imperfect measures of the "friendliness" of the local political environment to charter schools, we believe that combining state-level party concerns (where charter schools are a substantive issue) with the national (where charter schools work as a symbol) provides an adequate reflection of local charter school possibilities.

In the same vein, one would expect increasing strength of teachers' unions to be a deterrent to charter schools. Unions have been somewhat supportive of charter schools in contrast to vouchers, but they have rarely been charters' strongest supporters given charters' flexibility with regard to teacher issues. School visits to charter schools and other schools in the same districts in Wisconsin confirmed that union locals are mildly suspicious of charter schools even when teachers in them are covered by the district's contract.[14] Unfortunately, an efficient, unbiased estimate of "union strength" is difficult to come by if only because in some states, union membership is practically a by-product of employment. Therefore, we use the mean percent of current school spending on employee benefits across school districts as a proxy for local union strength. We expect that a Republican governor, a higher percentage of Republicans in the state legislature, and a more conservative citizenry will increase the predicted number of charter schools, while a stronger union will serve to depress the count.

A second hypothesis we test assumes that charter schools are not really a part of school choice in the main. Instead, this hypothesis argues that *charter schools are a response to increasing burdens on schools to provide services for traditionally lower-performing students* (e.g. Goldstein, 2003). RPP found that in most states, charter schools served a higher percentage of traditionally disadvantaged students than traditional public schools in those states (Berman, et al., 1999). In our own work in Wisconsin, just under half of all charter schools are for at-risk students and are the large majority of charter schools at the high-school level (54 at-risk vs. 16 other). Many states set separate, higher, charter school caps for at-risk schools, and some, like Nevada, practically require charter schools to be for at-risk students by imposing many requirements on other start-up or conversion charters.

While "at-risk" schools are not new, the additional charter school funding for them is. The U.S. Department of Education provides grants by way of state education agencies to help charter schools specifically with a year of planning and early years of operation. Districts may seek to use charter schools to provide specialized education for these students, especially if there are too few students to make such a school financially feasible without the extra funding. Because both race and poverty may play into at-risk status, we expect that as the state percentage of African-American and Hispanic students, the percentage of students with Individual Education Plans, and the percentage of students qualifying for reduced or free lunch increases, the higher the number of charter schools in the state will be. We also include the inequality of poverty across districts (as measured by

[13] We reversed the scale so that a conservative electorate would be high and a liberal one low. This is simply to match the direction of our other partisan variables.

[14] Wisconsin has two broad types of charters—"instrumentalities," that is, subject to district contract and union bargaining, and "non-instrumentalities," those that are not. In some districts, both types of charters are available. Interviews with teachers and principals at some of these schools revealed strikingly different views of the charter school idea.

the percent of reduced or free lunch students) using an Herfindahl index. This index is constructed so that a one indicates that a single district has all of the state's poor students, and (in the limit) zero indicates that all districts have the same percentage of such students. Measuring inequality between district is a first attempt to determine whether open charter schools may be the result of district competition for additional financial resources.[15] We expect that as the inequality between school districts increases, the number of charter schools will increase.

We include three control variables. First, we use the number of years elapsed since Minnesota passed the first charter school law in 1991. Although charter laws in many states have been subject to numerous revisions (or replacement, as in New Mexico), we suspect that older laws will grant greater flexibility and impose fewer accountability provisions on charter schools, increasing the number of schools. Of course, the longer a law has been in place the more likely it is that there will be charter schools, too. Second, we include the percentage of large school districts in the state. We defined "large" as those districts with more than ten thousand students, which is the 95th percentile nationally. The logic runs that large school districts are more likely to have a need for and to be able to support more schools of any kind, especially if a state lacks inter-district open-enrollment policies. Finally, we include the natural logarithm of the number of schools in the state. This serves to account again for the market for schools. If there are many schools, there is the possibility for many more. We use the logarithm to help correct for a highly skewed distribution of schools between states (e.g. between California and Wyoming).

We use a maximum-likelihood negative binomial regression to model our data (Long, 1997). Ordinary least-squares assumes that the dependent variable is continuous and uncensored. Count data, such as we use here, is neither. Obviously, a state cannot have a fractional school, nor can it have fewer than zero. The simplest count model is the Poisson, but it assumes that the conditional variance is equal to the conditional mean. This is unlikely given the skewed nature of the charter school count distribution (we have many low counts and some much higher counts). Therefore, we will use a negative binomial which relaxes the equality assumption and therefore predicts more schools at the extremes of the data. The actual shape of the distribution is determined by an α parameter that will be determined by maximum likelihood. Maximum likelihood also mitigates the effect of having a small number of cases (38 in our data).[16]

Results

To test between the two hypotheses above, we estimated a hybrid model encompassing both hypotheses and then tested the performance of each nested model against the unconstrained model (see Table 4). Below, we will show the predicted number of charter schools, given changes in the law. We discuss the impact of our legal scales before suggesting some conclusions from other explanatory variables.

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[15] A third hypothesis might entertain notions of inter-district competition. Although our project's preliminary work seems to indicate evidence of this, our state-level data is not sufficiently detailed to test this hypothesis.

[16] Future work on state laws will allow us to pool state data across the last twelve years, significantly increasing our *N*. Although there are 40 charter laws in the United States, we included neither the District of Columbia nor Tennessee. We were unable to use Tennessee because we could not locate student demographic information more recently than the mid-1990s. D.C.'s political arrangement is not comparable to the states.

(Tables 4 and 5 Go About Here.)

We can draw two conclusions about legal effects on charter school numbers immediately. First, flexibility in authorization has a strong and significant effect in all three contexts (p=0.00 in all models). Because gaining approval for a charter school is the first barrier to entry, it should not come as a surprise that having multiple authorizers and low requirements for teacher or parent interest, and other elements, should increase the number of schools. For a change in authorization flexibility from one-half a standard deviation below the mean to one-half above, the estimated number of school increases by 15 using model C, holding all other variables constant (see Table 5).[17] Only the control variables have similarly-sized effects; and authorization has double the effect of the next largest explanatory effect, the percentage Hispanic students (at seven schools).

Second, all models show that two subscales have no statistical effect, fiscal support and public accountability. Both non-effects present a curious finding. It may be that the amount of funding provided to charter schools is roughly equal on the ground regardless of variations in state law. Some states leave funding up to districts (e.g. Virginia, Wyoming, and others), but those districts may in fact provide equal funds anyway. Also, the charter schools may be "schools-within-schools" and so the amount of funds (particularly for buildings) may be less crucial for start-up costs. For potential start-up and especially conversion schools, public accountability may be a fixed cost when combined with the current requirements of No Child Left Behind. State law may then be merely restating otherwise existing requirements. A likelihood-ratio test for joint equality with zero confirms that we could have dropped these two subscales from our analysis (p=0.62), but we do not do so for theoretical completeness.

We cannot draw conclusions about the remaining two subscales without discriminating between our two hypotheses. Clearly, there is some interaction between benefits spending and employee flexibility, and local oversight is highly significant even with benefit spending. Which model is more likely to be correct? Because Akaike's information criterion (AIC; see Greene, 2000) is similar for the full model (A) and for the demographic model (C)—that is, they had a similar degree of fit—and because they fit better than the political model (B), we tested whether we could omit the political variables. A likelihood ratio test suggests that we cannot distinguish between the political variables and zero (p=0.18). We cannot omit the demographic variables (p=0.00), however. Nor can we omit all of the legal subscales (p=0.00). One conclusion to draw from this is that political factors, although they do exhibit some effect (their coefficients are far closer to statistical significance than the percentage of IEP students and public accountability, for example) is a background effect. In other words, charter schools seem to be far less a partisan issue than school vouchers seem to be. We will make some comments about benefits spending below; otherwise, we will use the demographic model (C) for the remainder of the discussion.

Using the restricted model (C), we find that local oversight has over twice the impact on the number of schools than flexibility in employee issues (5.27 versus 2.00 schools for a one standard deviation change). As a significant share of charter schools handles at-risk students, teacher flexibility may be less of a concern than waivers from state and district regulations and other elements of local oversight. This finding also confirms one of the assumptions used to construct the scales in the first place—that local

[17]Similar results were obtained using model A (17 schools) and B (14 schools). We also ran a negative binomial with school cap independently and found no statistical significance (p=0.60).

oversight is less flexible than state oversight. Figure 3 shows the relationship between law flexibility and the predicted number of schools open for three subscales.

(Figure 3 Goes About Here.)

The other explanatory variables contain some surprises as well as some confirmations for our expectations. First, our analysis confirms that teacher unions hinder charter growth, though, again, their impact is secondary to charter laws. Note that not all states in our sample have collective bargaining. So benefit-spending percentage is not necessarily collinear with union influence. Nevertheless, the percentage a district spends on employee benefits still represents the strength of teacher advocates in the district or state legislature, with or without an AFT or NEA affiliate. We will note, too, that although we will not discuss our political variables further, the signs on all of them were in the expected direction: More conservative state environments are more likely to have more schools, although the effect cannot statistically be distinguished from zero.

We were somewhat surprised at the sign on the African American student percentage. One possible explanation is that charter schools are not being used in poorer areas (which would be consonant with the signs on the reduced and free lunch variables) but rather where there are fewer at-risk students. This may also reflect what we found in another part of our charter school study. In Milwaukee, Wis., in contrast to the rest of the state, minority students are underrepresented in charter schools relative to traditional schools (Dickman, el al., 2003). We might also explain this finding by blaming it on the real world: A large share of charter schools are in states with a lower percentage of black students than those of other races (notably Arizona and California), and Mississippi, with a high percentage of African Americans, has but one school. The effect of Hispanic students on the number of schools would tend to support this view.

Finally, a word about the reduced and free lunch variables. The effect of these variables is about equal, and the same order as the percentage of African American students. Our results indicate that as poorer students are concentrated in fewer districts, the number of charter schools increases. Unfortunately, we do not have similar data on the allocation of charter schools at present. It is extremely unlikely, however, that charter schools are opening in these districts as an "escape" for more wealthy students (see, for example, Berman, et al., 1999; Good and Braden, 2000; Maranto, et al. 1999). Indeed, most state laws prohibit any form of discrimination that a traditional public school could not use. If poverty is correlated with at-risk status, this finding might indicate that charter schools are being opened as a way to funnel monies into charter schools with a special focus on at-risk children.

We can clearly predict the number of charter schools in a state from elements of the law and state characteristics. We now ask whether we can predict which states have flexible laws.

State Characteristics Affecting the Flexibility and Accountability of Charter School Laws

One of the initial purposes of this paper was to estimate which state-level characteristics are associated with more flexible and accountable charter school laws. Unfortunately, though still of interest, there appears to be no systematic, linear effects of either political, demographic, or education variables on the flexibility and autonomy of state charter laws. In addition there are only very sporadic effects on any of the subscales. Even surrendering to data mining did not yield tenable results.

Descriptive statistics for the variables we used in these regressions appear in Table 3b. For these models, our data for each state corresponds to the year a law passed in that state. In general, we included the same variables as in the previous section, although we included a few more variables to pick up other theoretical reasons for flexibility and accountability. First, we used the ratio of private schools to public as a rough measure of demand for charter schools (home school numbers would be better, but data do not exist nationwide). As demand for non-traditional education increases, we expect that charter schools may emerge as a way to keep students in the public system. Second, federal spending on special education (as a mean across districts) should help indicate if low federal spending (as a mean percentage of district spending) on special education yields flexible laws, especially if the percentage is low compared to the number of students. Districts may push for flexibility if the state has both need and the need for more resources. Last, we included wages along with benefits because many states provide some element of local funding, and wages are usually one of a district's largest expenditures. If wages were higher, charter school might provide a way for states to save on expenses by allowing charters to hire non-tenured teachers, perhaps. We omitted the number of schools because it is not clear how this would help explain the content of charter laws.

Example ordinary least squares regressions exemplifying our non-results appear in Table 6. The first columns estimate the full 20 item scale, and the middle is just the four flexibility subscales (without inclusion of the accountability subscale). There is simply little to be said for these tables.

(Table 6 Goes About Here.)

Demographic variables appear to affect subscales only for the public accountability and flexibility subscales. Higher percentages of African Americans and Hispanics are associated with more flexibility (at the 0.10 level), but only Hispanics with more stringent accountability (at the 0.05 level). However the Hispanic result could easily result from several states such as California, Texas, Arizona, or others that score highly on this scale in their laws.

The only education variables even close to affecting the estimates are that the percentage of large districts seems to indicate more flexibility (again stretching to the 0.10 level of probability), and that the higher private/public ratio seems to be associated with more flexibility in local oversight. Both of these results make sense, but the variables do not have systematic effects on any other dependent variables.

The remaining question is why there appears to be almost no systematic state characteristics associated with more flexible and accountable charter laws. One answer may be that charter school support comes from widely diverse sources. For example, while many Republicans would support such legislation based on either free-market type images or simply that they see charters as denting the public education "monopoly" (note that citizen ideology, which is the ideology of winners and losers in Congressional races moves to support this view). On the other hand, Democrats may also support charters with some enthusiasm. Charters are more likely to occur in larger school districts and thus provide inner-city parents with further options. And nearly all inner-city legislators are Democrats. In addition, clearly some liberal Democrats have supported charters as a means of forestalling voucher programs. The same was true for many teacher unions, especially in the early 1990s when the voucher issue was coming up in many legislatures and some initiatives or referendums. As is well known, the National Education Association formally supported charter schools and even became a charter school authorizer.

Another distinct possibility is that relationships may not be linear in that different states may arrive at different level of autonomy by way of a set of disparate coalitions and combinations of factors. Thus it might be that in states with overt voucher threats, Republican governors may team up with Democratic legislatures to pass flexible and accountable charter laws. In other cases straight Republican control may do the trick. Linear models would of course not pick up these variations. Our next step in trying to unravel these paths is to look at such combinations in terms of binary sets of relationships between key variables.[18] Needless to say, simple political generalization do not explain charter laws.

Conclusion

This paper provides considerable evidence of a number of different dimensions embedded in charter schools laws. Our first—unexpected—finding was that increasing flexibility in creating and running charter schools is correlated with increasingly stringent state requirements for accountability of charter schools. Legislatures appear to have lived up to the idea that charter schools should only gain autonomy if they accept public accountability. Then, we found that state laws are significant predictors of the number of schools and that charter school founders seem to be more responsive to the demographic conditions in a state than its political climate. We also found that flexibility in authorization and in local oversight, are the two most important elements of charter laws as regards their growth. Less successful was our effort to discern linear relationships between political, demographic, and education variables that we hoped would predict which states enacted more flexible and accountable laws. The next step in our research will be to search for systematic, but different paths and coalition combinations to both weak and strong laws.

[18] The authors would like to thank Professor Joe Soss for suggesting this possibility and this approach.

Appendix A: Sample Item Coding

Below, we include a full list of items included in each subscale and full examples. For the samples, we include both the coding rule and a sample legal text items. The full coding sheet is available upon request.

Subscales

Subscale 1. Authorization
School cap; school types (new, conversion, etc.); charter holders; number of first-application authorizers; local support for charter opening; and maximum charter contract length.

Subscale 2: Local Oversight
Appeals process for denial; rules waived; waiver authority; and disabled-student responsibility.

Subscale 3: Fiscal Support
Type of facilities funding; buildings available for occupancy; and source of school funds.

Subscale 4: Employee Issues
Teacher certification requirements; teacher tenure availability; teacher employer; and ability of teachers to transfer into a school.

Subscale 5: Accountability
Charter renewal requirements; performance reports required; and state standard requirements.

Sample Coding

Appeals Process

If a charter is denied, what appeal process exists in law?

1: no appeal permitted according to statute.
2: appeal to court system or voters in the district.
3: resubmission to charter authorizer only.
4: an authorized appeal board can review chartering decisions but may only remand the decision
5: an authorized appeal board can force chartering (or will authorize the school itself)

State example of 1 (Delaware, Title 14, sec. 511(k)): "If an application is made to the Department or a local board as an approving authority and the charter application is not approved, such decision shall be final and not subject to judicial review."

State example of 2 (Utah, 53A-1a-505(2)(c)): "The state board's action under Subsection (2)(b) [approval of a charter school] is final action subject to judicial review."

State example of 3 (Kansas, 72-1906(e) and 72-1907(b)): "If, upon receipt of a petition for establishment or continuation of a charter school, a board of education finds the petition to be incomplete, the board may request the necessary information from the petitioner;" and, "The decision to nonrenew or revoke a charter is not subject to appeal; however, the charter school authorities may renew procedures for authority to operate a charter school."

State example of 4 (Nevada, 386.525.4 and 5): "If the board of trustees denies an application after it has been resubmitted pursuant to subsection 3, the applicant may submit a written request to the subcommittee on charter schools created pursuant to NRS 386.507 . . . to direct the board of trustees to reconsider the application. . . . [525.5] If, upon reconsideration of the application, the board of trustees denies the application, the applicant may . . . appeal the final determination to the district court."

State example of 5 (Pennsylvania, XVII-A-1717-A(H)): "A decision by the appeal board under this subsection or subsection (G) to grant, to renew or not to revoke a charter shall serve as a requirement for the local board of directors of a school district or school districts, as appropriate, to sign the written charter of the charter school."

Facilities Funding

What type of facilities funding does the state provide?

1: none guaranteed.
2: loans only, strict limits.
3: loans or loan guarantees, undesignated.
4: state may give charter schools preference for some building grants or loans.
5: grants or funding approximately equal to local traditional public school capital accounts.

State example of 1 (Georgia, 20-2-2068.1(a)): "The local school board and the state board shall treat a . . . charter school no less favorably than other local schools . . . with respect to the provision of funds for instruction and school administration, and, where feasible, transportation, food services, and building programs."

State example of 2 (Illinois, 27A-11.5(3)): "Loans shall be limited to one loan per charter school and shall not exceed $250 per student enrolled in the school. . . The State Board may deduct amounts necessary to repay the loan from funds due to the charter school."

State example of 3 (Rhode Island, 16-77.1-4): "In the event that federal funds are either unavailable or are fully expended, there shall be established a system of interest free loans for start up costs for charter public schools to be provided from an appropriation of state funds designated by the legislature for this purpose."

State example of 4 (Oregon, 338.185): "The Department of Education shall award grants and loans to public charter schools that have a charter approved by a sponsor or to applicants what wish to establish or expand a public charter school. . . . Priority for awarding grants and loans shall be to those public charter schools serving at-risk youth."

State example of 5 (Florida, Title XLVIII, sec. 1002.33(20)): "Charter schools are eligible for capital outlay funds pursuant to s. 1013.62."

Teacher Tenure

Are teachers in charter schools eligible for tenure (or equivalent)?

1: yes, service counts toward tenure rights for all newly-hired and teachers on leave.
2: yes, but service count only if a teacher is later employed in a traditional public school.
3: tenure issues are specified in the charter or teacher contract.
4: no, but time does count for teachers on leave from a traditional public school (not for newly-hired teachers)
5: No tenure rights in charter schools

State example of 1 (Idaho, Ch. 52, Title 33-5206(3)): "Certified teachers in a charter school shall be considered public school teachers. Educational experience shall accrue for service in a charter school and such experience shall be counted by any school district to which the teacher returns after employment in a charter school."

State example of 2 (Connecticut, 10-66dd(c)): "A school professional who is . . . employed for forty school months of full-time continuous employment by the charter school and is subsequently employed by a local or regional board of education shall attain tenure after the completion of twenty school months of full-time continuous employment."

State example of 3 (Hawaii, 302a-1187): "The employment, appointment, promotion, transfer, demotion, discharge, and job descriptions of all officers and employees shall be determined by the [charter school] and applicable personnel laws and collective bargaining agreements."

State example of 4 (Illinois, 27A-10(b)): “The contractual continued service status and retirement benefits of a teacher of the district who is granted a leave of absence to accept employment with a charter school shall not be affected by that leave of absence.”

State example of 5 (Indiana, 20-5.5-6-10(b)(2)): “The teacher’s years as a charter school employee shall not be considered for purposes of permanent or semipermanent status with the school corporation.”

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Table 1. Scaling of State Charter School Laws.

Original dimensions	Items	Final dimensions	Items	Mean	Std. dev.	Cronbach's alpha
1. Application & Authorization	10	1. Application & Authorization	6	3.39	0.64	0.54
2. Governance	3	–	–	–	–	–
		2. Local Oversight (from 1 and 3)	4	3.73	0.84	0.63
3. Fiscal Support	7	3. Fiscal Support	3	2.97	1.28	0.66
5. Employees	11	4. Employees	4	2.80	0.76	0.44
6. Students	4	(to other subscales)	–	–	–	–
7. Performance Accountability	3	5. Accountability	3	4.03	0.90	0.52
8. Public Accountability	3	–	–	–	–	–
Total item scale			20	68.10	7.07	0.65

Table 2. Regression of CER State Scores on Subscales, 2003.

Independent Variables	Coefficient	Std. Error	t value	P>| t |
Application & Authorization	11.37	1.60	7.11	0.000
Local Oversight	2.04	1.29	1.59	0.122
Fiscal Support	1.37	0.79	1.73	0.093
Employees	3.84	1.16	2.98	0.005
Accountability	3.84	1.16	3.31	0.002
(constant)	-48.70	8.94	-5.45	0.000
Summary Statistics				
F (5,33)	17.28			0.000
Adj. R-squared	0.68			
N	39			

Table 3a. Descriptive Statistics for Explanatory Variables Predicting The Number of Open Schools.

	Mean	Std. Dev.	Min.	Max.	Expected Sign	Actual Sign
Political Variables						
Governor's party (R = 1)	0.61	0.49	0	1	+	+
Citizen ideology	49.89	13.96	23.97	83.07	+	+
Legis. Republican %	49.21	15.32	13.50	89.28	+	+
Benefit % of spending	11.18	2.28	6.32	17.24	–	–
Demographic Variables						
African American student %	15.08	13.32	0.77	51.00	+	–
Hispanic student %	11.80	12.63	0.85	51.01	+	+
IEP student %	13.66	2.12	9.96	20.00	+	+
Red/Free lunch %	32.80	15.25	9.96	65.28	+	–
Red/Free lunch inequality	0.0098	0.0145	0.0000	0.0638	+	+
Control Variables						
Large district %	12.07	12.01	1.23	1.00	+	+
ln(Number of public schools)	7.30	0.87	5.29	9.10	+	+
Years since initial passage	7.10	2.58	1.00	12.00	+	+

Note: Source data is most recent available at time of writing.

Table 3b. Descriptive Statistics for Explanatory Variables Predicting Flexibility and Accountability.

	Mean	Std. Dev.	Min.	Max.	Expected Sign	Actual Sign
Political Variables						
Governor's party (R = 1)	0.62	0.49	0	1	+	–
Citizen ideology	53.67	14.42	17.61	86.15	+	+
Legis. Republican %	46.84	16.63	9.92	85.00	+	+
Benefit % of spending	10.38	3.34	3.40	17.25	–	–
Wages % of spending	43.85	3.00	34.31	50.11	+	+
Demographic Variables						
African American student %	15.72	13.20	0.83	51.03	+	–
Asian & Pacific Islander %	4.37	11.23	0.59	68.83	+	–
Hispanic student %	9.79	11.32	0.43	46.09	+	+
Native American student %	2.22	5.00	0.11	24.55	+	+
IEP student %	12.02	2.28	6.85	17.18	+	–
Federal Spec. Ed. spending %	13.14	7.20	3.83	47.07	–	–
Control Variables						
Private to public students ratio	0.11	0.05	0.02	0.21	+	+
Large district %	12.49	18.62	0.10	100.00	+	+
Year count from 1990	7.10	2.58	1	12	–	–

Note: Source years for this data varies by passage date of law in a state; "actual" signs are from Table 6, column 1.

Table 4. Factors Affecting the Number of Charter Schools Open in a State, 2002–03.

	Full Model (A)			Political Model (B)			Demographic Model (C)		
	Estimate	**Std. Error**	**P-value**	**Estimate**	**Std. Error**	**P-value**	**Estimate**	**Std. Error**	**P-value**
Authorization	0.54**	0.09	0.00	0.52**	0.09	0.00	0.53**	0.09	0.00
Local oversight	0.22*	0.10	0.03	0.10	0.12	0.38	0.18*	0.09	0.04
Fiscal support	0.05	0.09	0.59	0.11	0.10	0.28	-0.00	0.07	0.95
Employees	0.06	0.09	0.52	0.14	0.10	0.19	0.07	0.08	0.42
Public accountability	-0.04	0.12	0.69	0.09	0.13	0.46	-0.04	0.08	0.65
Governor's party	0.20	0.15	0.18	0.29	0.18	0.11			
Citizen ideology	0.01	0.01	0.21	0.02	0.01	0.12			
Legis. Republican %	0.75	0.68	0.27	1.72	0.82	0.12			
Benefit % of spending	-5.98*	3.37	0.08	-7.30*	4.08	0.04			
African American student %	-1.24	0.86	0.14				-1.29	0.81	0.11
Hispanic student %	1.57*	0.76	0.04				2.01**	0.68	0.00
IEP student %	0.54	3.96	0.89				2.25	3.65	0.54
Red/Free lunch %	-0.78	0.73	0.28				-1.27*	0.73	0.08
Red/Free lunch inequality	14.61*	7.74	0.06				13.66*	7.70	0.08
Large district %	1.84**	0.53	0.00	1.49**	0.58	0.01	2.06**	0.43	0.00
ln(Number of public schools)	1.04**	0.16	0.00	0.87**	0.11	0.00	1.12**	0.14	0.00
Years since initial passage	0.19**	0.38	0.00	0.24**	0.04	0.00	0.19**	0.03	0.00
Number of cases	38			38			38		
Log likelihood	-145.02			-153.77			-148.12		
Chi-squared	99.44 (17 d.f.)			81.92 (12 d.f.)			93.26 (13 d.f.)		
ln AIC	8.63			8.83			8.59		

*Note: Maximum-likelihood negative binomial regression. **Significant at 0.01, one-tailed test; *significant at 0.05, one-tailed test.*

Table 5. Estimated Changes in the Number of Schools, 2002–03.

	Min. to Max.	One Std. Dev.
Authorization	86.09	15.47
Local oversight	19.25	5.27
Fiscal support	-0.49	-0.14
Employees	8.15	2.00
Public accountability	-4.34	-1.03
African American student %	-16.37	-4.86
Hispanic student %	39.49	7.25
IEP student %	6.65	1.36
Red/Free lunch %	-24.55	-5.23
Red/Free lunch inequality	34.46	5.70
Large district %	150.77	10.74
ln(Number of public schools)	210.11	29.37
Years since initial passage	62.43	13.36

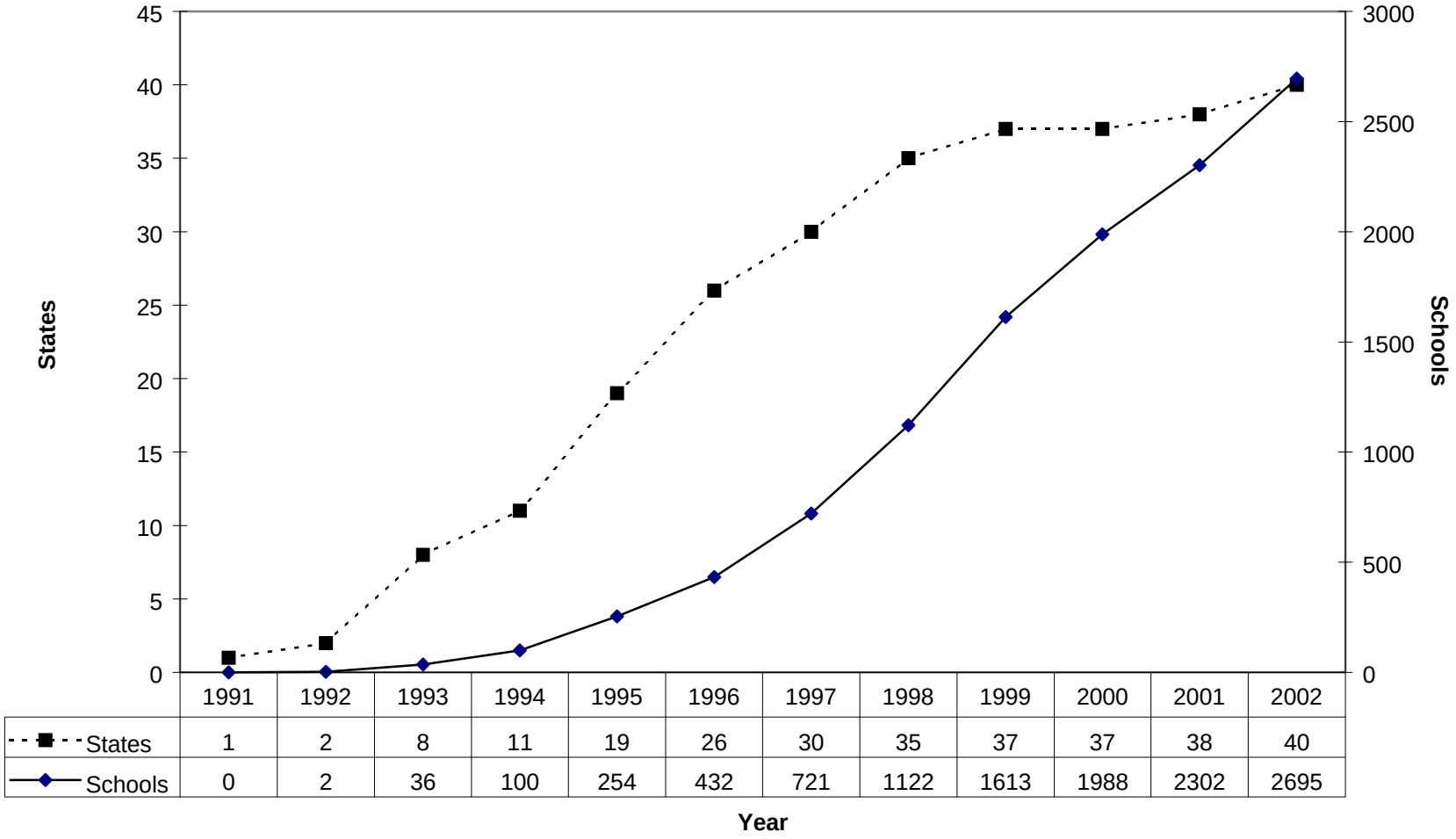
Note: Standard deviation change is the change in counts from one-half a standard deviation below the mean of the explanatory variable to one-half a standard deviation above. Other variables were held at their means.

Table 6. Factors Affecting the Degree of Flexibility and Accountability in State Laws.

	Autonomy (Full Model)			Flexibility			Public Accountability		
	Estimate	**Std. Error**	**P-value**	**Estimate**	**Std. Error**	**P-value**	**Estimate**	**Std. Error**	**P-value**
Governor's party	-0.61	0.50	0.24	-0.53	0.47	0.27	-0.23	0.49	0.64
Citizen ideology	0.03	0.02	0.30	0.05*	0.02	0.05	-0.03	0.02	0.25
Legis. Repub. %	0.01	0.02	0.68	0.00	0.02	0.81	-0.01	0.02	0.73
Benefit % of spending	-0.00	0.07	0.98	0.02	0.06	0.78	0.05	0.07	0.48
Wages % of spending	0.16	0.10	0.12	0.10	0.09	0.27	0.12	0.10	0.24
African American student %	-0.03	0.02	0.21	-0.03	0.02	0.18	0.02	0.02	0.44
Asian & Pacific Islander %	-0.06	0.05	0.25	-0.05	0.04	0.27	0.01	0.05	0.88
Hispanic student %	0.02	0.02	0.22	0.02	0.02	0.19	0.05*	0.02	0.02
Native American student %	0.06	0.05	0.31	0.06	0.05	0.26	0.03	0.05	0.60
IEP student %	-0.13	0.12	0.33	-0.04	0.12	0.73	-0.05	0.12	0.67
Fed. spec. ed. spending %	0.00	0.03	0.91	0.02	0.03	0.57	0.02	0.03	0.59
Private to public student ratio	10.31	5.96	0.10	10.29*	5.53	0.08	-1.03	5.81	0.86
Large district %	0.03	0.02	0.21	0.04	0.02	0.11	-0.01	0.02	0.56
Year count from 1990	-0.03	0.13	0.80	0.01	0.12	0.94	-0.13	0.13	0.32
Number of cases		33			33			33	
F(14,18)		1.48			1.66			1.33	
Adj. R-sq.		0.02			0.17			0.13	

*Note: Ordinary least squares regression. **Significant at 0.01, one-tailed test; *significant at 0.05, one-tailed test.*

Figure 1. Growth of Charter Schools and States Nationwide, 1991–2002.



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
States	1	2	8	11	19	26	30	35	37	37	38	40
Schools	0	2	36	100	254	432	721	1122	1613	1988	2302	2695

Figure 2. Autonomy Scale Prediction of CER's Score, 2003.
Linear prediction generated from multiple regression on individual subscales.

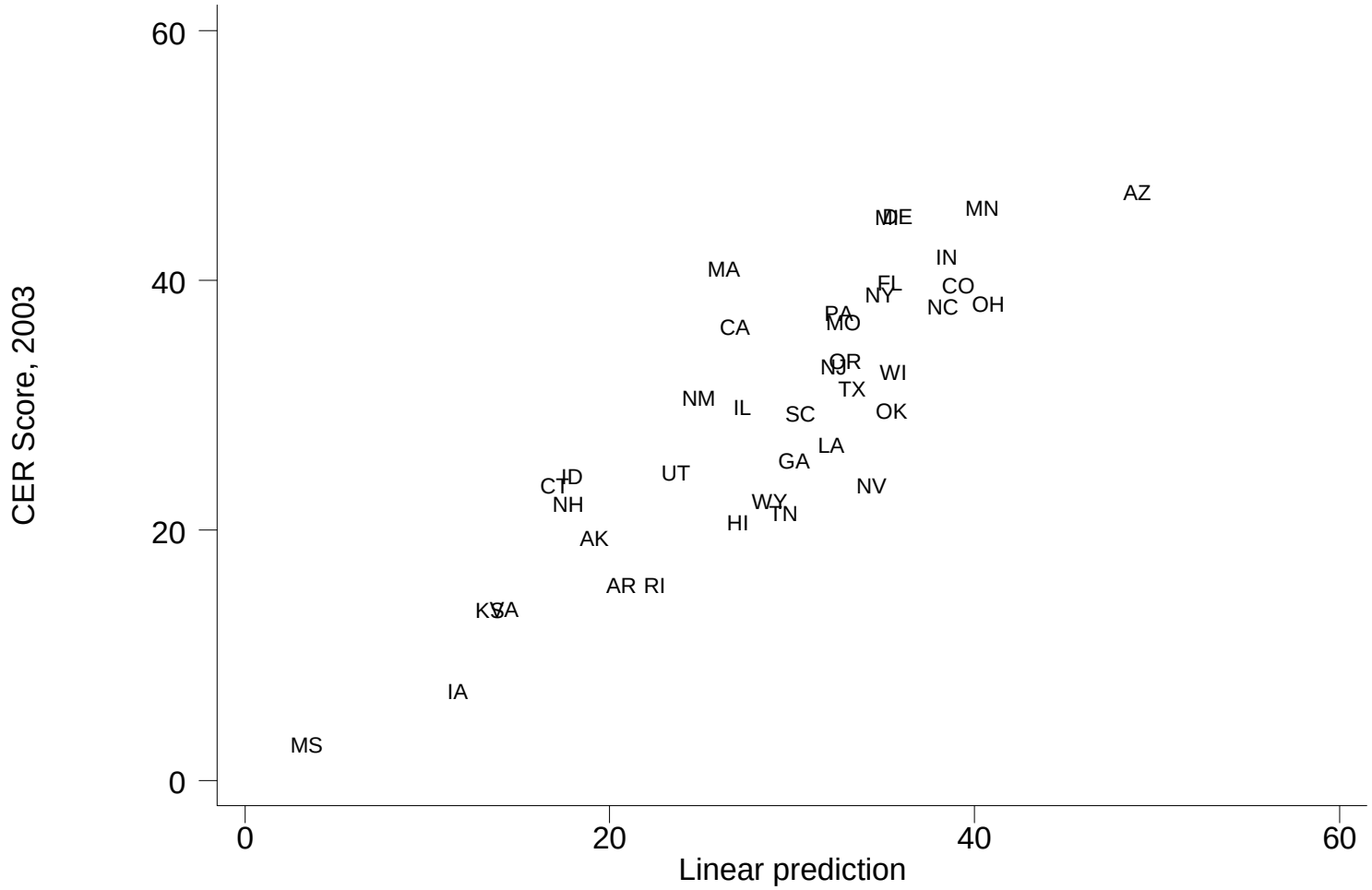


Figure 3. Predicted Number of Schools Given Variation in Legal Flexibility, 2002–03.
Factor change holding all other variables at their means